

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSING AND PROPERTIES INDEX																										SUBJECT INDEX																									
<p>Ca</p> <p>Synthesis of perfume chemicals from castor oil. S. Namethin, V. Iannicelli and V. Kharova. <i>Makhorine Zhurnal</i> 1986, 17-8, 166-6; cf. C. A. 89, 6887.</p> <p>Heptadecane, prep. from castor oil, was treated with PCl₅ and the dichloride was made to react with NaNH₂ (or better with alc. or dry KOH) to form heptene (II): Me(CH₂)₆C(CH₃)=CH₂ (II) reacted with CCl₄OMe to form Me(CH₂)₆C(CH₃)CCl₂OMe. By a Grignard synthesis or by reaction with CO, II gave Me(CH₂)₆C(CH₃)CCl₂OMe (III). Esters were made by acetylating III with acetic anhydride and Et₃CN₂OH. Properties of the esters are tabulated.</p> <p>Julian P. Smith</p>																										17																									
ASAC-11-A METALLURGICAL LITERATURE CLASSIFICATION																										SUBJECT INDEX																									
1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									

[illegible]

1ST AND 2ND COLUMNS		3RD AND 4TH COLUMNS	
PROCESSES AND PROPERTIES INDEX			
CIVILIAN		10	
<p>Phenylacetylene. V. I. Kuznetsov. Russ. 46. 618, May 31, 1956. Phenylacetylene is heated with (C₆H₅)₃N, to form phenylbenzene, and this is reduced with H in the presence of Ni catalyst.</p>			
<p>ADD-51A METALLURGICAL LITERATURE CLASSIFICATION</p>			
SECTION 131111111		SECTION 131111111	
SECTION 131111111		SECTION 131111111	

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p>Production of citral from coriander oil. V. I. Lagul'yants and R. K. Smol'yannova. <i>Sintezy Dushnykh Veshchestv</i>, Sbornik State 1959, 243 G; <i>Khim. Referat. Zhur.</i> 1960, No. 4, 117. Soviet coriander oil contg. up to 60% of linakol was used as the starting raw material. The oil was oxidized with $K_2Cr_2O_7$ or CrO_3. High yields of citral were obtained only in cases when an excess of the oxidizing agent was used. The time of the oxidation process depends on the temp. conditions. From 10 kg. of coriander oil was obtained 9.2 kg. of the oxidized product contg. 48-50% of citral. Since this product was used for the manuf. of ionone and methylionone no attempts were made to obtain citral in the pure state. Cf. C. A. 28, 1460⁴. W. R. H.</p>																																																			
<p>ASAC. S. A. METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

SUBJECT		PROCESS AND PROPERTIES INDEX	
1ST AND 2ND ORDERS			
<p><i>CO</i></p> <p>Alkylation of phenols. V. I. Ingulyants and P. P. Bagryantseva. <i>Nefteye Khim.</i> 1956, No. 2, 36-41.</p> <p>For the prepn. of <i>p</i>-<i>tert</i>-butylphenol the following methods were checked: Action of iso-BuOH on phenol in the presence of anhyd. ZnCl₂, and ZnCl₂ and AlCl₃, and the action of <i>tert</i>-BuCl and HCl or AlCl₃ on the acceleration of the alkylation of phenol carried out in the presence of naphthalene for solvent of HCl at a reaction temp. of 80-80°. The highest yield of the <i>tert</i>-butylphenol, which amounted to 64.5%, was observed when using 60 g. <i>tert</i>-BuOH, 20.1 g. isobutylene, 47 g. phenol, 4 g. <i>tert</i>-BuCl and 10 g. AlCl₃. The yield amounted to 71.8% when using 60 g. iso-BuOH, 25.4 g. isobutylene, 47 g. phenol, 4 g. <i>tert</i>-BuCl and 5 g. AlCl₃. The condensation carried out in the presence of 60 g. iso-BuOH, same isobutylene, 47 g. phenol, 4 <i>tert</i>-BuCl, 5 AlCl₃ and 150 CCl₄ gave a yield of 70.3%. Condensation with isobutylene in the presence of AlCl₃ with a repeated use of the latter gave the best yield when using 60 g. of iso-BuOH, 47 g. phenol, 4 g. <i>tert</i>-BuCl, 29.8 g. of the lower layer and 100 g. of CCl₄. Expts. with pressure condensation yielded 77.8% of the final product, when using 86 g. isobutylene, 94 g. phenol, 9 g. <i>tert</i>-BuCl and 5 g. AlCl₃, at a temp. of 100° and a pressure of 5 atm. for 2 min. A scheme of the process is given and 16 literature references are appended.</p> <p>A. A. Boehrling</p>		<p>10</p>	

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<p><i>ca</i> 17</p> <p>Progress in the chemistry of perfumes. Y. I. Isagul- yants. <i>Uspekhi Khim.</i> 7, 79-112 (1968). A review cover- ing newer methods for the prepn. of a no. of hydrocarbons, alcs., aldehydes, acetates, ketones, esters, lactones, and substances with musk-like odors for use as perfumes. F. H. Matheson</p>																			
<p>ASM-ELA METALLURGICAL LITERATURE CLASSIFICATION</p>																			

The chemistry of Perkin's reaction. New method of preparation of coumarin and its application on a large scale. V. I. L'vinskaya and E. K. Smol'skinnova. *J. Applied Chem.* (U. S. S. R.) 11, 946-54 (in French 5-11) (1938).
Tech. α -HOC₆H₄CHO was prepd. by the Fiemann-Reimer method. Isocoumarin was prepd. by the Perkin method modified by Kabin (cf. C. A. 23, 828) as follows: 181 g. of calcined K₂CO₃ (820 g. of AcO and 200 g. of tech. α -HOC₆H₄CHO (50-60%) were placed in a 2-l. flask provided with a reflux condenser, a cooling system and a thermometer. Immediately after adding the AcO to the K₂CO₃, the temp. of the reaction mixt. rose to 110-20° (due to the heat of reaction) with a violent evolution of CO₂. After that, the reaction mixt. was heated at 180-200° for 1 hr. simultaneously distg. off the AcOH and AcOPh formed and the excess of AcO. Upon cooling to 130-40° the contents of the flask were poured into 5 vols. of cold water. The crude coumarin was extd. with 400 (500) cc. of PhMe. The ext. was washed with water (to remove AcOH) and steam-distd. (to remove the PhMe and to remove AcOH) and steam-distd. (to remove the PhMe and to remove AcOH). The residue was distd. *in vacuo*, yielding AcOPh, coumarin which was then crystd. from 95% EtOH, coumarin 75% of pure isocoumarin. The method was applied on a larger scale using 25 times of the above amts. of the reactants.
A. A. Podgorny.

A. A. Podgorniy

1ST AND 2ND CODES		PRECEDENCE AND PROPERTIES INDEX		3RD AND 4TH CODES	
CA		<p>Vanillin from safrole. S. S. Nametkin, V. I. Isagul- yan's and V. N. Eliseeva. <i>Sintezy Dushistyykh Veshchestv</i>. <i>Sovetskii Sovet</i> 1960, 13-21; <i>Khim. Referat. Zhur.</i> 1960, No. 4, 110-11. The methylene bridge of safrole is broken by the action of alkali after 3 hrs. at 170° and a pressure of 8-9 atm. The selective oxidizing property of nitro- benzene was verified. Owing to this selective oxidizing property of nitrobenzene it was possible to oxidize in a mixture of isomeric ethoxyhydronpropenylbenzenes a prod- uct with the OH group in the para position with respect to the propenyl group and to obtain vanillin (4-ethoxy-4- hydroxybenzaldehyde). In spite of the large yield dur- ing the first 2 stages of the process the total yield of vanillin was 11-17% (of pure safrole), owing to the presence of an isomer in the mixture which does not contribute to the formation of vanillin.</p> <p style="text-align: right;">W. R. Henn</p>		17	
<p>ASB-11A METALLURGICAL LITERATURE CLASSIFICATION</p>					
BOOK DIVISION		BOOK DIVISION		BOOK DIVISION	
CHAPTER NO.		CHAPTER NO.		CHAPTER NO.	
SUBCHAPTER NO.		SUBCHAPTER NO.		SUBCHAPTER NO.	
SUBSUBCHAPTER NO.		SUBSUBCHAPTER NO.		SUBSUBCHAPTER NO.	

1ST AND 2ND GROUPS																										3RD AND 4TH GROUPS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p>production of ionone and methylionone. S. S. Nametkin, V. I. Izrael'skaya, E. V. Glogoleva and O. M. Khod'mer. <i>Sovetskaya Dushitsykh Veshchest, Sbornik State</i> 1939, 224-36; <i>Khim. Referat. Zhur.</i> 1940, No. 4, 117.—Investigations of the condensation reactions between citral and MeCOEt indicate that ionone and methylionone can be obtained from the oxidized coriander oil (contg. 45% of citral) without a preliminary sepn. of citral. W. R. H.</p>																																																			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION																																																			
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1ST AND 2ND COLUMNS																										3RD AND 4TH COLUMNS																									
PROCESS AND PROPERTIES INDEX																																																			
<div style="display: flex; justify-content: space-between;"> ca 10 </div> <p>Production of linyl acetate. I. S. Kizber, A. L. Jozgizantia and B. K. Smol'yaninova. <i>Sintezy Dushistyykh Veshchestv</i>, Novosibirsk 1980, 252-6; <i>Khim. Referat. Zhur.</i> 1980, No. 4, 118; cf. C. A. 28, 1460'. Coriander oil was used as the raw material for producing linyl acetate. A mixt. enriched to a 70-80% content of linakol was obtained from the oil. Linakol was acetylated with Ac₂O in the presence of insignificant amts. of the complex anhydride of H₂SO₄ and AcOH or of H₂PO₄ and AcOH. 0.1-0.3 kg. of linyl acetate was obtained from 10 kg. of 70-80% linakol.</p> <p style="text-align: right;">W. R. Henn</p>																																																			
ASB-3LA METALLURGICAL LITERATURE CLASSIFICATION																																																			
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1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p><i>ca</i></p> <p>Methyl heptynecarboxylate. I. S. S. Nametkin, V. I. Isagulyants and V. N. Eliseeva. <i>Sintezy Dushistyykh Veshchestv, Sovetskii Sovet</i> 1959, 281-9.—Knanthole was used as the starting substance. Its di-Cl deriv. was obtained by the method of Lhuipricht by treating the alkylide with PCl₅. The dichloride was transformed into heptyne by the action of dry KOH. By treating with metallic Na in the presence of kerosene the heptyne was transformed into Na heptyne from which heptynecarboxylic acid was obtained by treating with CO₂. The Me ester was obtained from the acid by the ordinary method. <i>Il.</i> L. Ya. Bryukova and O. P. Kuanetsava. <i>Ibid.</i> 291-3.—The method for producing Me heptynecarboxylate under lab. conditions was tried under semi-production conditions. Owing to the formation of POCl₃ in the 1st stage of the process (production of heptyliden chloride from knanthole and PCl₅) the Fe app. used for the production is lined with glass and provided with a glass-covered mixer. A fractionated heptyne product contg. 85-93% of heptyne was used for producing heptynecarboxylic acid instead of the tech. product contg. 41-3% of heptyne. The intermediate product, Na heptyne, was obtained by dispersing metallic Na. This improved the mixing and accelerated the subsequent carbonization process. From the top fraction obtained during fractionation of Me heptynecarboxylate a ketone was obtained through the bisulfite compl. The const. of this ketone corresponded to those of AmCOMe. The yield of Me heptynecarboxylate was 50.7% based on heptyliden chloride, 54% based on heptyne and 37% based on heptynecarboxylic acid. Through <i>Khim. Refrat. Zhur.</i> 1940, No. 4, 119. W. R. Henn</p>																																																			
<p>ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

1ST AND 2ND ORDER										PROCESS AND PROPERTIES INDEX										1ST AND 2ND ORDER									
10																				10									
<p><i>ca</i></p> <p>The isomerization of geranyl acetate. V. I. Isagulants and G. A. Serebrennikov. <i>J. Gen. Chem.</i> (U. S. S. R.) 9, 917-23 (1939).—Pure geraniol, b_p 107°, d₄ 0.8830, n_D²⁰ 1.4768 (300 g.) yields, at room temp. on reaction with 300 g. Ac₂O in the presence of a catalyst consisting of 90 parts Ar₂O + 10% H₃PO₄ (d. 1.7), 342 g. pure geranyl acetate (I), b_p 114-15°, d₄ 0.9160, n_D²⁰ 1.4655. I gives cyclogeranyl acetate (II) and terpin hydrate when it reacts with 85% H₃PO₄ at -5° whereas practically no isomerization is observed under the above conditions in the presence of toluene or by using toluenesulfonic acid, an aq. soln. of ZnCl₂, and of HCO₂H as catalyzing agents. When 92% H₃PO₄ is used only II is formed. Cyclogeranyl butyrate, b_p 100°, d₄ 0.9435, n_D²⁰ 1.4660, is obtained by adding 12 g. PrCOCl to 10 g. cyclogeraniol and 8 g. pyridine at 0°. Cyclogeranyl caproate, b_p 126°, d₄ 0.9344, n_D²⁰ 1.4662. Cyclogeraniol, b_p 73°, d₄ 0.8392, n_D²⁰ 1.4843, is obtained from II on sapon. with alc. KOH. Gertrude Berend</p>																													
<p>550.514 METALLURGICAL LITERATURE CLASSIFICATION</p>																													
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1ST AND 2ND CROSS		PROCESS AND PROPERTIES INDEX		3RD AND 4TH CROSS	
<p>ca</p> <p>Oxidation of 2,4-dichloro-2-butene. I. Preparation of oxalic acid by oxidation of 2,4-dichloro-2-butene by aqueous solutions of nitric acid and of calcium nitrate. V. I. Isakyan and G. M. Malyan. (Chem. Ind. Acad. Sci. Armenian S.S.R.). <i>Bull. Armenian Branch Acad. Sci. U.S.S.R.</i> 1966, No. 5/6, 17-21 (in Russian with English summary). — 2,4-Dichloro-2-butene (81 g.) and 500 cc. 20.5% HNO₃ were heated to 60° with stirring for 1-2 hrs. (the temp. must be kept below 70°). Evapn. of the soln. gave 20-3 g. (CO₂H)₂·2H₂O (43.8-5.5%). Oxidation with 30% Ca(NO₃)₂ soln. gave so low a yield that it is not recommended as a method of prepn.</p> <p>G. M. Kimlarnff</p>					
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>					
GROUPS 1-4		GROUPS 5-10		GROUPS 11-15	
GROUPS 1-4		GROUPS 5-10		GROUPS 11-15	

CA

TEST AND PROPERTIES INDEX

Lubricants. V. I. Isagulyants and P. Ya. Manakov
 U.S.S.R. 66,307, May 31, 1966. Hydroxyphenyl-
 glycol monomethyl ether of naphthene acid, or *p*-tert-butyl-
 phenol added in quantities of 1-5% to mineral lubricating
 oils lowers the surface tension and the friction coeff. *p*-
 tert-butylphenol also lowers the solidification temp. M. Hosh.

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ASM-11A METALLURGICAL LITERATURE CLASSIFICATION

REGION 10-190

REVISION 100-100

REVISION 100-100

ISAGULYANTS, V.I.; AZIZYAN, T.A.

Synthesis of aroxychlorobutenes [with summary in English]. Izv.
AN Arm.SSR.Est.nauki no.4:71-77 '47. (MLRA 9:8)

1. Deystvitel'nyy khlen AN Argyanskoy SSR.
(Butene)

2. Khimicheskij Inst. Akademii Nauk Argyanskoy
SSR.

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CA

Oxidation of derivatives of 1,3-dichloro-2-butenes. II. Synthesis of arylacetic acids. V. L. Isagulyants and T. A. Azharyan (Chem. Inst., Erevan). *Doklady Akad. Nauk Armyan. S.S.R.* 7, No. 1, 21-5 (1947); cf. *ibid.* No. 8-9, 1946. --PhOH (17 g.), 28 g. KOH, and 117 g. C₆H₆ treated dropwise with 63 g. MeCCl:CHCl:Cl and kept 10 hrs. at 100° gave Ph 3-chloro-2-butenyl ether, bp 105°, d₄²⁰ 1.1148, n_D²⁰ 1.5435. *m*-Cresol yields the *m*-tolyl analog, bp 102-5°, d₄²⁰ 1.0008, n_D²⁰ 1.5401. Treatment of the ethers with powd. KMnO₄ in Me₂CO at 37° over 3 hrs. gave, resp.,

68% PhOCH₂CO₂H, m. 96°, and 63% *m*-MeC₆H₄OCH₂CO₂H, m. 102°. G. M. Kozolapoff

1ST AND 2ND ORDERS		PROCESS AND PROPERTY INDEX	
CA		10	
<p>The reaction of 1,3-dichloro-2-butenes with aromatic hydrocarbons. V. I. Isagulyants and N. G. Mischevskii. (in <i>Compt. rend. acad. Sci. U.R.S.S.</i> 80, 105 (1967)) (in French).—The condensation of $\text{C}_6\text{H}_5\text{CH}=\text{CHCl}$ with benzene, toluene, C_6H_6, and cumene in the presence of AlCl_3 has been studied and the reaction products (30-60% yields) and derivatives have been characterized as follows:</p> <p>1-Aryl-3-chloro-2-butenes: Ph, b.p. 90-2°, d₄²⁰ 1.032, n_D²⁰ 1.5350; tolyl, b.p. 103-5°, d₄²⁰ 1.028, n_D²⁰ 1.5301; cumyl, b.p. 131-3°, d₄²⁰ 1.063, n_D²⁰ 1.5225; naphthyl, b.p. 161-3°, d₄²⁰ 1.106, n_D²⁰ 1.5360. 1-Aryl-2,3-dibromo-2-butenes: Ph, m. 30-1°; tolyl, m. 50-60°; cumyl, m. 85-7°. 1-Aryl-3-ethoxy-2-butenes: Ph, b.p. 94-6°, d₄²⁰ 0.980, n_D²⁰ 1.5312; tolyl, b.p. 101-8°, d₄²⁰ 0.9980, n_D²⁰ 1.5172; cumyl, b.p. 123-6°, d₄²⁰ 0.9980, n_D²⁰ 1.5172. 1-Aryl-2,3-dibromo-3-ethoxybutenes: Ph, b.p. 102-3°, d₄²⁰ 1.5750, n_D²⁰ 1.5815; tolyl, b.p. 160-70°, d₄²⁰ 1.5455, n_D²⁰ 1.5825; cumyl, b.p. 183-5°, d₄²⁰ 1.4815, n_D²⁰ 1.5828. The structures of the arylchlorobutenes were ascertained by per- manganate oxidation to the corresponding arylacetoacetic acids, by ozonolysis of the phenylchlorobutene to PhCH_2CHO (identified by the m.p. of the semicarbazone), and by the hydrolysis of the Cl compds. with the subsequent formation of the corresponding ketones (identified by the m.p. of semicarbazones). With EtONa the arylchlorobutenes gave 1-aryl-3-ethoxy-1-butenes and arylbutynes (structure not yet detd.). The arylchlorobutenes did not react with KCN, Na, or Mg.</p> <p>Myron Q. Webb</p>			
<p>ASD-5LA METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>ASD-5LA</p>		<p>ASD-5LA</p>	

ISAGULYANTS, V.I.; AZIZYAN, T.A.

Synthesis of p-tert-butylphenoxyacetic acid. Dokl. AN Arm. SSR 9
no.1s23-26 '48. (MIRA 9:10)

1. Deyatvitel'nyy chlen Akademii nauk Armyanskoy SSR (for Isagulyants). 2. Akademiya nauk Armyanskoy SSR, Yerevan.
(Acetic acid).

COMMON ELEMENTS		PROCESSING AND PROPERTIES INDEX	
1ST AND 2ND EDITIONS			
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z		10	
<p>Synthesis of triphenyl. V. I. Isagulyants, <i>Nefteyanov Khim.</i>, No. 11, 49-56(1948). A review of the 3 methods known: methylation of olefins with Me halide, followed by hydrogenation; demethylation of isooctane; and alkylation of iso-C₄H₁₀ with C₄H₉. 9 references.</p> <p>B. C. M.</p>			
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p> <p>FROM SYNOPTIC</p> <p>SYNOPSIS</p> <p>ABSTRACTS</p>		<p>FROM SUMMARY</p> <p>SUMMARY</p>	

ISAGULYANTS, V. I.

"The Chemistry of Petroleum, a Laboratory Handbook" (Khimiya Nefti, Rukovodstvo Laboratornym Zanyatiyam), V. I. Isagulyants and G. M. Yegorova, Goskhimizdat, Moscow/Leningrad, 1949, 240 pages, 9 rubles.

This handbook is based on the experience of the Moscow Petroleum Institute in the chemistry of petroleum during the last 12-15 years.

SO: Uspekhi Khimii, Vol 18, #6, 1949; Vol 19, #1, 1950 (W-10083)

CA

Transformations of heptane and isobutylene in the presence of alloys containing aluminum chloride. V. I. Tsagulyants and M. V. Golovanova. *Doklady Akad. Nauk S.S.S.R.* 67, 275-8 (1949).— $AlCl_3$ deposited on porous carriers (nature and concn. unstated) was used in autoclave (time unstated), to isomerize heptane at $170-80^\circ$ in an autoclave (time unstated), yielding 12-31% isobutylene fraction. Passage of the hydrocarbon over $AlCl_3$ -contg. catalysts at $170-80^\circ$ (other conditions unstated) gave 11.6-29.8% isobutylene fraction/pass, but in the latter instance up to 7.8% lower hydrocarbons were obtained; the iso fraction was shown to contain 2,3- and 2,4-dimethylpentane, and 2- and 3-methylhexane. No complex formation with the catalyst was seen. The flow method applied to isobutylene gave 67.8% catalyze contg. 45% olefins and 55% alkanes, among which 2,2,4- and 2,3,4-trimethylpentane were detected; 35% of the catalyze b. above 130° was high in aromatics: fraction b. $130-80^\circ$ contained 37% c; b. $180-200^\circ$, 47%; b. $240-80^\circ$, 68%; and b. $325-40^\circ$, 78%. The process appears to proceed via dimerization to diisobutylene, followed by partial isomerization of the 2,4,4-trimethyl-2-pentene to the 2,3,4-isomer, dehydrogenation of the latter (with hydrogenation of the olefins), while the residual olefins react with isobutylene or its dimer to yield the aromatic derivs. via diene synthesis, dehydrogenation, and loss of CH_4 . G. M. Kosolapoff

Petroleum Inst. in Gubkin,

ISAGULYANTS, V. I. et al

"The synthesis of 1, 3 dichlorobutene-2," Chem. Achievements, Vol. 19, No. 6, 1950.

ISAGULYANTZ, V. I.

PA 192734

USSR/Chemistry - Antiknock Fuels

Mar/Apr 51

"From History of Chemistry: Reaction of A. El'tekov for Methylation of Olefins," V. I. Isagulyantz, Moscow

"Uspekhi Khim" Vol XX, No 2, pp 253-255

Describes El'tekov reaction (1882) for methylation of amylenes (2-methylbutenes) in presence of PbO and MeI into 2,3-dimethylbutene-2 and 2,3,3-trimethylbutene-1. Latter, used for hydrogenation into 2,3,3-trimethylbutane (triptane) has been synthesized by V. I. Molodavskiy, T. V. Nizovkina, V. P. Zharkova (1946) and V. A. Miller,

192734

USSR/Chemistry - Antiknock Fuels
(Contd)

Mar/Apr 51

V. G. Lovell (US, 1948) by El'tekov reaction using MgO and MeCl in place of PbO and MeI. Miller and Lovell are criticized for inadequate citation of Russian work.

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Chem A

Synthesis of arylbutadienes. V. I. Isagulyants and G. T. Esayan. *Doklady Akad. Nauk S.S.S.R.* 76, 531-4 (1951). - Reaction of 1-aryl-1-chloro-2-butenes with powder KOH yields 1-aryl-1,3-butadienes, probably via the formation of acetylenic analogs and the allen-butadiene rearrangement. Use of alc. KOH yields the ethoxybutene arrangement. As solvents for the reaction one may use (C.A. 42, 5344). As solvents for the reaction one may use CCl₄, MePh, Vaseline Oil, etc.). The best yield of 1-phenyl-1,3-butadiene, 21-25% b.p. 70-1°, n_D²⁰ 1.5008, d₄²⁰ 0.9277, is obtained in boiling MePh with excess KOH; simultaneously 25-30% dimer forms. Addn. of CuI·NH₃ as stabilizer did not affect the yield. The monomer forms the dibromide, m. 89-90°, and the tetrabromide, m. 141-2°, while with maleic anhydride it yields 3-phenyl-tetrahydrophthalic anhydride, m. 119-20°, which hydrolyzes to the free acid, m. 198-7°. Thus the monomer appears to be the trans-isomer. The liquid dimer, b.p. 183°, n_D²⁰ 1.5088, d₄²⁰ 1.0327, forms a dibromide, m. 221-2°. In addition, a solid, CuI·NH₃, also forms in the reaction in unspectacular yield. Reactions with substituted analogs were less facile, and excess KOH and long heating periods were needed; hence the butadienes (monomers) were isolated only in 12-18% yields, and their dimers in 35-45% yields. Possibly the monomers were trans structures. Thus, the following were obtained: 1-(p-tolyl)-1,3-butadiene, b. 81-5°, n_D²⁰ 1.5752, d₄²⁰ 0.9270; dimer, b. 207-10°, n_D²⁰ 1.5702, d₄²⁰ 0.9905; adduct of monomer with maleic anhydride, 3-(p-tolyl)-Δ⁴-tetrahydrophthalic anhydride, m.p. unstated (free acid, m. 201-1°). 1-(p-cumyl)-1,3-butadiene, b. 105-6°, n_D²⁰ 1.5400, d₄²⁰ 0.9050; dimer, b. 228-11°, n_D²⁰ 1.5548, d₄²⁰ 0.9680; 3-(p-cumyl)-Δ⁴-tetrahydrophthalic acid, m. 205-6°. 1-(Naphthyl)-1,3-butadiene, b. 130-41°, n_D²⁰ 1.6238, d₄²⁰ 1.0026; dimer, b. 270-3°. Monomeric with 3 moles of maleic anhydride, could not be isolated; 1-(p-phenoxyphenyl)-1,3-butadiene could not be isolated; but the dimer b. 208-74°. In all reactions polymers were formed; these on drying formed strong elastic films. G. M. Kuzolapoff

1957

AS arm. SSR

GOLDSHTEYN, RICHARD FRANK; ISAGULYANTS, V.I., professor, deystvitel'nyy chlen

[Petroleum chemicals industry] Khimicheskaya pererabotka nefi. Perевод
s angliiskogo N.S. Dabagova. Pod red. V.I. Isagulyantsa. Moskva, Izd-vo
inostrannoi lit-ry, 1952. 398 p. (MLRA 6:5)

(Petroleum industry and trade)

1. Akademiya nauk Armyskoy SSR.

ISAGULYANTS, V. I.

USSR/Chemistry - Plastics

21 Jul 52

"Some Derivatives of the Vinyl Ether of Beta-Decalol;
V. I. Isagulyants Act Mem, Acad Sci Armenian SSR, V. A.
Medzhykhovskaya, V. P. Shishkov

"Dok Ak Nauk SSSR" Vol 85, No 3, pp 567-570

The vinyl ether of beta-decalol reacts with n-butyl alc to give butyl-beta-decalylacetal, which disproportionates on distn and apparently on standing. The vinyl ether of beta-decalol adds bromine. It polymerizes very easily in the presence of acid catalysts (BF_3 , FeCl_3 , AlCl_3) or benzoyl peroxide. The polymers formed are hard, resinous substances. With BF_3 catalyst, the

235T14

reaction goes at neg temps; on heating to 45-70° the reaction proceeds violently; at high temps, a low mol polymer results. The polymer is non-thermoreactive, hard, clear, colorless to light yellow in color, and sol in a number of org solvents. In connection with polymerization under use of catalytically acting quantities of benzoyl peroxide, a cryst substance was extracted. According to its mol wt, it is a compd formed from 2 gram mols of the vinyl ether of decalol and one gram mol of oxygen.

235T14

ISAGALYANTS, K.

Propene conversion over $\text{AlCl}_3\text{-NaCl}$ catalyst. V. I. Isagulyants and P. S. Belov. *Nefteyanee Khim.* 32, No. 8, 1457 (1954). The propene conversion products obtained with an $\text{AlCl}_3\text{-NaCl}$ catalyst on a charcoal carrier consist of a mixt. of 25% hydrocarbons boiling below 180° , 68% boiling between 180 and 340° , and 6.9% of a residual oil boiling above 340° . Most of the olefins are tertiary, and the paraffins are hydrogenated tertiary olefins. The aromatics formed are the products of interaction of olefins and diolefins. Spectroscopic analysis proved the absence of quaternary C atoms which shows that the reaction does not proceed in accordance with Markovnikov's rule. The fused $\text{AlCl}_3\text{-NaCl}$ mixt. is preferable to straight AlCl_3 because it is not hygroscopic and is more selective. W. M. Sternberg

ISAG-ULYANTS, V.I.

Mechanism of hydrogenation of divinylacetylene. V.I.
 Isagulyants, G. T. Esayan, A. G. Terzyan, R. M.
 Oganesyan, and N. M. Manasegyan. *Doklady Akad.*
Nauk S.S.S.R. 94, 883-5(1954).—Hydrogenation of di-
 vinylacetylene was performed in EtOH, AcOH, or xylene
 at both elevated and atm. pressures over Raney Ni. The
 results indicate that the primary product is 2,4-hexadiene,
 which in turn yields 2- and 3-hexene, and finally n-hexane.
 The reaction was followed by treatment with maleic an-
 hydride and by bromination of intermediates.
 G. M. Kosolapoff

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62

Isagulyants, V. I.

✓ Preparation of some β -halo ethers from olefins. V. I. Isagulyants and I. S. Maksimova. Doklady Akad. Nauk S.S.S.R. 20, 121-6 (1955) (in Russian; Armenian summary). — 2-Pentene and 1-pentene mixt. (830 g.), 160 ml. of EtOH and 130 g. of KOH were mixed together, cooled to -10° , stirred and 42.6 l. of Cl₂ (at 4.5 l./hr.) were introduced. After completion of the reaction, water was added, the upper layer washed until neutral and dried over CaCl₂, the unreacted pentenes distd. off, the dikhlorides removed by treatment with alc. 30% KOH, and the reaction mixt. distd. yielding a product (I) b. between 180-93°. I treated with alc. KOH and redistd. gave Et(RO)-CHCHClMe (II, R = Bu), b. 191-3°, d_4^{20} 0.8237, n_D^{20} 1.4309. II (R = Ph), b. 122-4°, d_4^{20} 1.0468, n_D^{20} 1.5040, and II (R = cyclohexyl), b. 137°, were similarly prepd.

V. S. Mihajlov

BM

for substitution and...
...is treated with...
...in the presence of catalysts such as H_2SO_4 or...
...The resulting 2-phenyl-2-methylpropane...
...is treated with $SOCl_2$ and the sulfide neutralized with...
...the product is used as an antiseptic, anty or...

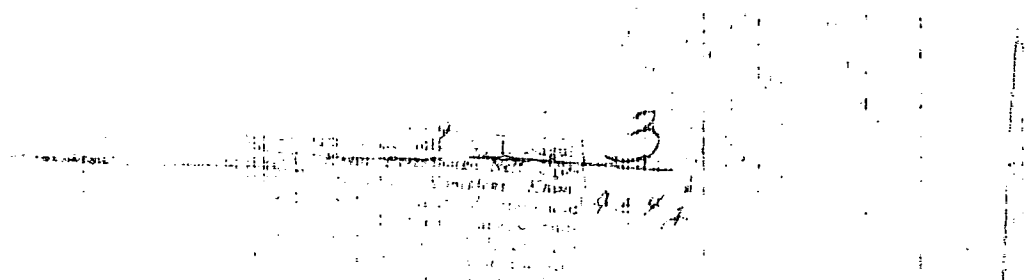
methyldiene in the presence of catalysts such as FeCl_3 or
antimony. The resulting 2-phenyl-2-hydroxyphenyl
propane is treated with S_2Cl_2 and the sulfide neutralized with
 NaOH . The product is used as an antiscorching, anticor-
rosion, and detergent additive. M. Hosh

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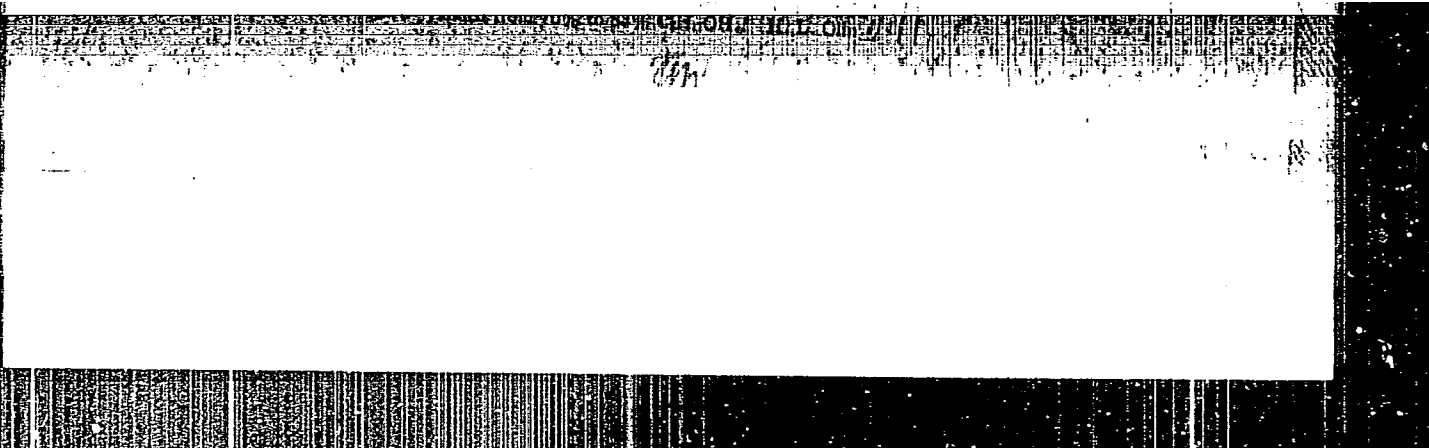


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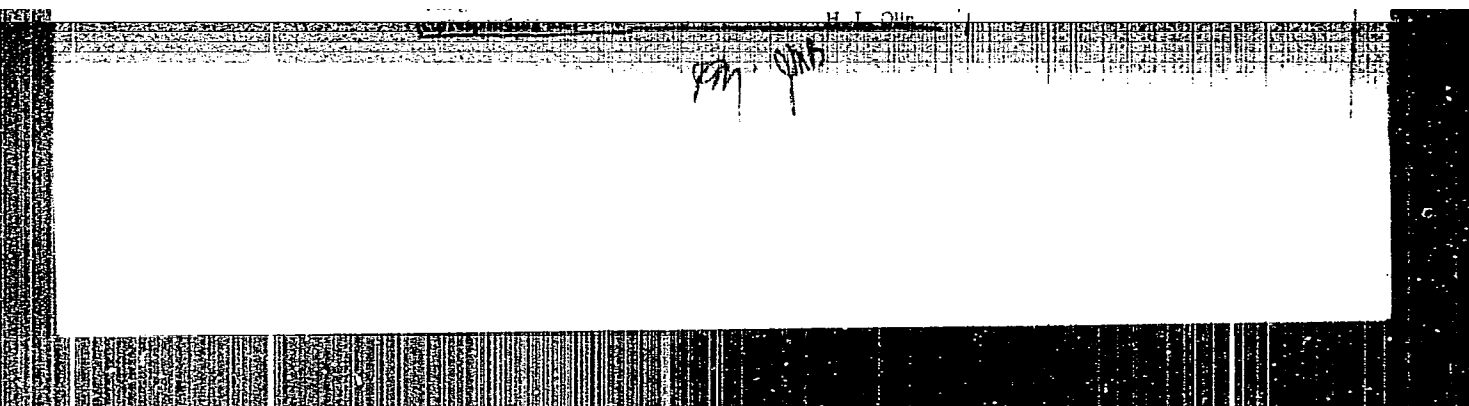


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SOV/81-59-7-23343

5.3620

Translation from: Referativnyi zhurnal. Khimiya, 1959, Nr 7, p 204 (USSR)

AUTHORS: Isagulyants, V.I., Tishkova, V.N.

TITLE: The Synthesis of Some Derivatives of Alkylated Phenols¹

PERIODICAL: V sb.: Khim. pererabotka neft. uglevodorodov. Moscow, AS USSR, 1956, pp 474 - 478

ABSTRACT: The interaction of S_2Cl_2 and SCl_2 in $n-RC_6H_4OH$ (I), where everywhere a R = tertiary- C_4H_9 , b R = tertiary- C_8H_{17} , was studied, and methods for obtaining sulfides, di- and polysulfides were developed according to the reactions: $2I + SCl_2 \rightarrow Ar_2S$ (II) (where everywhere Ar-2-OH-5- RC_6H_3) + $2HCl$; $2I + S_2Cl_2 \rightarrow (ArS)_2$ (III) + $2HCl$; $3I + 2SCl_2 \rightarrow 2,6-(ArS)_2-4-RC_6H_2OH$ (IV) + $4HCl$ or $3I + 2S_2Cl_2 \rightarrow 2,6-(ArSS)_2-4-RC_6H_2OH$ (V) + $4HCl$. It was shown that the formation of III and IV of various molecular weight depends on the quantity of initial S_2Cl_2 or SCl_2 . To 0.2 mole of Ia in 150 ml of absolute C_6H_6 within 45 min (25 - 45°C) 0.1 mole of SCl_2 is added, it is heated on the water bath for 1 hour, the reaction product is washed by a 5%-solution of

Card 1/2

USSR/Chemical Technology. Chemical Products and Their Application -- Treatment of natural gases and petroleum. Motor fuels. Lubricants, I-13

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 5495

Author: Skripnik, Ye. I., Isagulyants, V. I., Shtof, I. K.

Institution: None

Title: Thermal Stability of Sulfur Compounds of Kuybyshev Oblast Petroleum

Original

Publication: Khimiya i tekhnol. topliva, 1956, No 5, 1-8

Abstract: A study has been made of the effect of temperature on thermal stability of sulfur compounds of the 10 principal petroleum varieties of the Kuybyshev Oblast, in which the sulfur content varied from 0.567 to 3.400%, content of dissolved H_2S was 0.005-0.25%, and elemental S 0.00-0.76%. The apparatus for determination of thermal stability of sulfur compounds in crude petroleum consisted of a 2-liter, round bottom, flask with a 300 mm long packed column. Petroleum was heated to the required temperature (within the 100-400° range, at intervals

Card 1/3

Isagulyants, V. I.

chm Transformations of isobutylenes in the presence of aluminum chloride V. I. Isagulyants and Bunkol Ion (L. B. Gubzin Petroleum Institute, Moscow, U.S.S.R.). Doklady Akad. Nauk S.S.S.R. 12, 125-126 (1960) (In Russian).—Keeping $\text{Me}_2\text{C}=\text{CH}_2$ with 1% ZrCl_4 in an ampul 24 hrs. yields products of polymerization whose mol. wt. ranges from 638 to 1336, when the catalyst proportion is varied from 0.2 to 2%. The use of 1% ZrCl_4 gave a product contg. 76-90% olefinic products; higher concn. of catalyst tends to lower the olefin content drastically. Similar reaction in an autoclave at 130-200° and 30-70 atm gave 67-85% polymerization products in 2-3 hrs. The material mainly b. 40-180°. Increased content of the catalyst tends to increase the content of isoparaffins in the product. The latter contains dimers of $\text{Me}_2\text{C}=\text{CH}_2$, 2,4,4-trimethyl-1-pentene and 2,4,4-trimethylpentene and 2,5-dimethyl-2-hexene, 2,5-dimethylhexane, and 2,3,4-trimethylpentane. The higher-boiling fractions appear to be suitable as diesel fuel, are free of aromatics and have a high initial point. G. M. K.

Card : 1/2

Isoculants, V. I.

7
✓ Synthesis and conversion of β -chloro ethers from cracking olefins. I. Activity of β -chloro ethers and a new method of preparing α -substituted vinyl ethers and olefin ketones. V. I. Isaculants and I. S. Makinova. ZHUR. Prirod. Khim. 30, 715-81 (1957). Attempts to cleave HCl from 2-butoxy-1-chloropentane (I) by boiling with MeOH and PhMe solns. of KOH failed. On the other hand, 2-methoxy-1-chloropentane (II) heated in sealed tubes with alc. KOH at 80-140° formed $\text{MeCH}_2\text{CH}_2\text{C(OMe):CH}_2$ (III); conversion of the original ether increased from 25 to 77% as the temp. increased. II heated with alc. KOH in an autoclave for 8 hrs. at 200-210° under 10-20 atm. pressure gave 90-93.7% III, b. 85-86°, n_D^{20} 1.4020, d_4^{20} 0.8049, Br no. 158.9. II was prepd. by the sulfamide method (cf. Sklyarov, C.A. 34, 4055²) from a narrow fraction (35-42°) of cum. amylene from which the isomerenes had been removed by digestion with HCl (d. 1.19). I. Benicovitz

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is low. Experiments with aluminum dust were carried out by the autoclave method. Temperature fluctuated between 180 and 280°. Experiments with magnesium were carried out in the temperature interval of 160 - 280°. If the influence exercised by carbon

The Transformation of β -chlorine ethers in the presence of metals. 20-1-28/64

aluminium, and magnium upon chlorine ethers is compared, it is found that the activity mechanism of these metals remains unchanged: all of them at first promote catalytic separation of HCl from ether, and afterwards the separated hydrochloric acid together with the free metals causes the formation of chlorides. These chlorides intensify the reaction of the separation of hydrochloric acid and catalyze the renewed reaction of hydrolysis and polymerization of the alpha-derivative of vinyl ether formed.

(With 5 tables and some chemical formulae)

ASSOCIATION: not given.

PRESENTED BY: -

SUBMITTED/ -

AVAILABLE: Library of Congress.

CARD 2/2

AUTHOR:

Isagulyants, V. I., Member, AS Armenian SSR

64-53-2-4/16

TITLE:

The Production of Substituted Phenols and Their Use in National Economy (Polucheniye zameshchennykh fenolov i ikh primeneniye v narodnom khozyaystve)

PERIODICAL:

Khimicheskaya Promyshlennost', 1958, Nr 2, pp. 20-26 (USSR)

ABSTRACT:

In the introduction the branches of industry using substituted phenols, as well as finished products for which such phenols serve as initial material, are mentioned, and the author states that these phenols are industrially produced by alkylation with alcohols or olefines. In the first mentioned production the alkylation in the presence of sulfuric acid proved best until now. A schematic representation of a phenol alkylation with primary isobutanol is mentioned using sulfuric acid at a reaction temperature of 90-100°C in the beginning and of 135°C at the end. The conversion of phenol and isobutylene is mentioned to amount to 90-95%. The reaction of isoamylene with phenol by Koenig (ref 11) conducted is said to be the first treatment of the phenol alkylation by olefines. Isagulyants and Tishkova (ref 13) investigated the phenol alkylation

Card 1/4

The Production of Substituted Phenols and Their Use in National Economy 64-58-2-4/16

reactions with olefines in the presence of various acidous catalysts and ion exchange resins. Ipatieff and Pines (ref 14) dealt with the last mentioned reactions in the presence of phosphoric acid, while Zavgorodniy (ref 15) and also Topchiyev and others (ref 16) worked with boron fluoride compounds as catalysts. At present the most rational production method of substituted phenols in Russia as well as abroad is said to be the use of olefines as alkylation agents and sulfuric acid or organic sulfo-acids as catalysts. An example of a phenol alkylation with diisobutylene in the presence of an acid catalyst is mentioned to explain the reaction mechanism. In the USSR substituted phenols are obtained by the alkylation of phenol with polymeric gasoline. The latter boils at 190° (begins to boil at 45-50°C) and in principle consists of a mixture of octylene with up to 20% higher boiling and 5% low boiling hydrocarbons. The alkylation process is described, benzene-toluene or chlorobenzenesulfoacid are used as

Card 2/4

The Production of Substituted Phenols and Their Use in National Economy 64-58-2-4/16

mentioned. The production of growth stimulators and herbicides, as well as of smelling substances (musk etc.) are mentioned as well. In the use of substituted phenols for the production of phenolformaldehyde resins a universal glue n.88 and the production of epoxy resins are mentioned. There are 4 figures and 22 references, 14 of which are Slavic

AVAILABLE:

Library of Congress

1. Phenols--Synthesis
--Applications
2. Alcohols--Applications
3. Olefines

Card 4/4

ISAGULYANTS, V.I., akademik.

Manufacture of substituted phenols and their application in the
domestic economy. Khim. prom, no.2:84-90 Mr '58. (MIRA 11:5)

1. AN Arzyanskoy SSR.

(Phenols)

SOV/81-59-16-58532

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 16, p 414 (USSR)

AUTHORS: Isagulyants, V.I., Tishkova, V.N., Papok, K.K., Zuseva, V.S.

TITLE: Investigation in the Field of the Synthesis of Admixtures to Petroleum Products. Communication I. The Synthesis of Phenolates of Sulfides and Disulfides of Substituted Phenols

PERIODICAL: Tr. Vses. n.-i. in-t po pererabotke nefiti i gaza i polucheniya iskusstv. zhidk. topliva, 1958, Nr 7, pp 378-389

ABSTRACT: With the aim of studying the synthesis of phenolates of sulfides and disulfides of various substituted phenols and the effect of the composition and the structure on their properties as admixtures to lubricants, the authors synthesized and investigated several alkylphenolates containing various quantities of S in the molecule, various alkyl radicals and various metals. It has been found that the solubility of the phenolates depends on the nature of the substituting radical and increases with an increase in the length of the side chain in the aromatic ring. Phenolates with a long chain of C_4 or containing an aralkyl radical do not dissolve

Card 1/2

ISAGULYANTS, V.I.; TISHKOVA, V.N.; PAPOK, K.K.; ZUSEVA, B.S.

Synthesis of phenolates of sulfides and disulfides of substituted phenols. Izv.vys.ucheb.zav.; neft' i gaz 1 no.11:97-103 '58.
(MIRA 12:5)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
im. akad. I.M.Gubkina.
(Phenoxides)

BELOV, P.S.; ISAGULYANTS, V.I.

Study of the synthesis and conversions of β -chloroethers based on
styrene. Izv.vys.ucheb.zav.; neft' i gaz 1 no.12:93-99 '58.
(MIRA 12:4)

I. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlen-
nosti im. akad.I.M.Gubkina.
(Stylene)

ISAGULYANTS, V.I.; TISHKOVA, V.N.; PAPOK, K.K.; ZUSEVA, B.S.

Research in the field of the synthesis of additives for
petroleum products. Report No.1: Synthesis of phenolates of
sulfides and disulfides of substituted phenols. Trudy MNI
no.23:31-41 '58. (MIRA 12:1)
(Phenoxides) (Petroleum products--Additives)

ISAGULYANTS, V.I.; TISHKOVA, V.N.; FAVORSKAYA, N.A.; OGANESEYAN, R.O.

Substituted hindered phenols and their use as antioxidants for
petroleum products. Trudy MNI no.23:42-61 '58. (MIRA 12:1)
(Phenols) (Alkylation) (Petroleum products--Additives)

ISAGULYANTS, V.I., akademik; AZIZYAN, T.A.

Synthesizing some simple esters of glycolic acid on the basis of cellulose and 1,3-dichlorobutene-2. Dokl. AN Arm. SSR 27 no.2:75-80 '58. (MIRA 11:10)

1. Institut organicheskoy khimii AN Armanyskey SSR. 2. AN Armanyskey SSR (for Isagulyants).

(Glycolic acid) (Cellulose) (Butene)

AUTHORS: Isagulyants, V.I., Belov, P.S. (Moscow)

74-27-4-6/8

TITLE: Halogen Ester. Methods of Synthetization and Properties
(Galoidoefiry. Sposoby polucheniya i svoystva)

PERIODICAL: Uspekhi Khimii, 1958, Vol. 27, Nr 4, pp. 488-516 (USSR)

ABSTRACT:

In the present paper research work carried out in the field of the synthesis and transformations of β -halogen esters is described in detail. As the properties of these esters differ considerably from one another, the properties of δ - and δ -halogen esters are compared with one another. Also methods of synthetization are described (which were worked out by Shostakovskiy and Bogdanova) (Ref 7). Wislicenus (Ref 8) synthetized α - and β -dichloroesters by combining chloron with vinyl esters. Lieben, Houben and Fuhrer (Ref 5,10) used α -, β -dichloroethyl ester for the synthesis of esters with ramified alkyl radicals by the interaction with zinc-magnesium-organic compounds at the expense of the mobility of the α -halide. Close attention was paid by Shostakovskiy and his collaborators to the reaction of the chlorination of vinyl ester (Ref 13) as well as by Boord (Ref 14). The latter obtained α -, β -dibromoalkyl ester by the

Card 1/3

Halogen Ester. Method of Synthetization and Properties

74-27-4-6/8

There are 1 table, and 137 references, 58 of which are Soviet.

1. Esters--Synthesis

Card 3/3

ISAGULYANTS, V.I.; MAKSIMOVA, I.S.

Conversions of β -chloroethers in the presence of metals. Zhur.
prikl. khim. 31 no.10:1578-1585 0 '58. (MIRA 12:1)
(Ethers) (Metals)

ISAGULYANTS, U.F.

11(2,4) 350/2536

PHASE I BOOK EXPLOITATION

Moscow. Institut neftekhimicheskoy i gazovoy promyshlennosti.
 Problemy nefti i gaza (Oil and Gas Problems) Moscow, Gosoptekhnizdat, 1959.
 346 p. (Series: Nafta Trudy, v. 24) Errata slip inserted. 2,000 copies printed.

Sponsoring Agency: Ministerstvo Vyshego obrasovaniya SSSR.

Ed.: G. P. Morgunova; Tech. Ed.: I. G. Fedotova; Editorial Board:
 E. P. Zhigach, Professor (Resp. Ed.), I. M. Murav'ev, Professor, A. A. Filimonov, Candidate of Economic Sciences, V. S. Vinogradov, Candidate of Technical Sciences, M. N. Charygin, Professor, F. P. Dusev, Professor, I. A. Charygin, Professor, V. H. Zakhov, Professor, G. M. Panchenkov, Professor.

PURPOSE: This collection of articles is intended for specialists in the petroleum and gas industry. It will also be of interest to scientific research institutes, teachers and students of universities.
CONTENTS: This collection of articles reviews problems connected with natural study of gas production. A number of articles are devoted to the Volga-Ural petroleum region, sections of the crystalline beds underlying seismic prospecting, oil well logging, development of the Caspian depression, petroleum-bearing formations and their physicochemical characteristics, and their possible use in the oil and gas industry, the production of carbonyl-methylcellulose compounds, the application of ionic exchange resins to the organic catalysis, the improvement of lubricating oil and grease. (Fluid-acid esters on properties of lubricating oil and grease. The influence of a number of photographs, tables, diagrams, and diagrams. The book contains those relating to coal gasification and conversion of heavy petroleum residues over a fluidized bed catalyst deserve special attention. References accompany individual articles.

Abstracts: M. N. Gas Turbine Engines and Properties of Utilizing Them in Petroleum and Gas Industry

246

Zhigach, E. P., M. N. Filimonov, I. M. Murav'ev, and Ye. M. Bogdanov. Study of Physicochemical Properties of Fractions and Low Polymerization Compounds of Carbonylmethylcellulose, and Their Production

257

Rogachev, A. V., Ye. M. Panchenkov, I. P. Bayev, M. V. Kuznetsov, and G. I. Shalashov. Present State of the Synthesis of Benzene Homologs and Their Chemical Processing

269

Isagulyants, U. F. Ionic Exchange Tars and Their Application to Organic Catalysis

286

Gur'yash, V. I. (Dobson), A. I. Smolko, Ye. V. Zaidorich, M. P. Zaitseva, M. N. Filimonov, V. N. Pavlov, A. S. Sviridov, and A. A. Shcherbakov. The Process of Continuous Coking of Heavy Petroleum Residues Carried Out Over a Powdered Coke

298

Chernomukhin, M. V., I. P. Lukashovich, A. Z. Rikhsiev, O. G. Susanina, V. V. Kuznetsov, I. P. Sedukhin, I. A. Shcherbakov, M. N. Filimonov, Ye. M. Panchenkov, and G. I. Shalashov. Solubility of Hydrocarbon Gases in Organic Solvents and Possibilities of Improving Lubricating Oil Manufacturing

311

Molodtsov, D. S. Synthetic Solid Esters and Their Influence on Properties of Lubricating Oil and Grease

341

BELOV, P.S.; ISAGULYANTS, V.I.

Synthesis and study of the conversions of β -chloroacetic
esters based on cyclohexene. Izv.vys.ucheb.zav.; neft' i gaz
2 no.11:75-81 '59. (MIRA 13:4)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
imeni akademika I.M.Gubkina.
(Acetic acid) (Cyclohexene)

ISZAGULJANG, V.I. [Isagulyants, V.I.] (Leningrad); TISKOVA, V.N. [Tishkova, V.N.] (Leningrad); PAPOK, K.K. (Leningrad); ZUSZEVA, B.Sz. [Zuseva, B.S.] (Leningrad)

Investigation of the synthesis of additives of mineral-oil products.
I. Preparation of substituted phenol-sulfide and phenol-disulfide
metal salts. Tr. from the Russian. Kem.tud.korl.MTA 12 no.3:257-264
'59. (KRAI 9:4)

1. Leningradi Tudományegyetem.
(Mineral oils) (Phenols) (Sulfides) (Salts)

ISAGULIANTS, V.I. (Leningrad); TISHKOVA, V.N. (Leningrad); FAVORSKAIA, N.A.
(Leningrad); OGANESIAN, R.O. (Leningrad)

Substituted shaded phenols and their use as antioxidant additives
of mineral oil products. Tr. from the Russian. Len.tud.kosl.MTA 12
no.4:363-381 '59. (KRAI 9:4)

1. Leningradi Tudományegyetem.
(Phenols) (Mineral oils)

ISAGULYANTS, V.I.

Ion-exchange resins (ionites) and their use in organic catalysis.

Trudy MINIKHGP no.24:286-297 '59.

(MIRA 13:3)

(Catalysts) (Resins, Synthetic)

ISAGULYANTS, V.I.; ASHUMOV, G.G.

Preparation of glycol (mono) ester of naphthenic acids. Azerb.
khim.zhur. no.5:25-27 '60. (MIRA 14:3)
(Glycols) (Naphthenic acid)

30650

S/081/61/000/020/085/089
B110/B147

11.0170 (also 3019)

AUTHORS: Isagulyants, V. I., Tishkova, V. N., Favorskaya, N. A.

TITLE: Synthesis of mineral-oil and motor-fuel additives on the basis of substituted phenols

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1961, 410-411, abstract 20M160 ([Tr.] Groznensk. neft. in-t, sb. 23, 1960, 132-136)

TEXT: Schemes for the synthesis of multifunctional additives of the following types are given: metallic salts of sulfides and disulfides of alkyl phenols; metallic salts of diether dithiophosphoric acids, whose ether groups were obtained from disulfides of alkyl phenols; dialkyl amino salts of diether dithiophosphoric acids, whose ether groups were obtained from disulfides of alkyl phenols; Ca and Ba phenolates obtained by chloromethylation of the condensation products of alkyl phenols with CH_2O , by reaction of the chloromethylated products with metallic salts of diether dithiophosphoric acids, and by subsequent treatment with $\text{Ca}(\text{OH})_2$

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30650

Synthesis of mineral-oil and...

S/081/61/000/020/085/089
B110/B147

or $\text{Ba}(\text{OH})_2$. A new method was worked out for synthesizing the oxidation-inhibiting additive 2,6-di-tert-butyl-4-methyl phenol (I) by alkylation of dicresol (mixture of p-cresols and m-cresols) with the butane-butylene fraction in the presence of H_2SO_4 . By treatment with aqueous alkali in the presence of a solvent, the alkylate is separated into a solution of I in the solvent and into an aqueous alkaline solution which contains other alkylation products of dicresol. The periods for which ethylated gasoline with an addition of I and some of its synthesized homologs remain stable are indicated. [Abstracter's note: Complete translation.]

Card 2/2

S/081/61/000/020/075/089
B106/B147

AUTHORS: Isagulyants, V. I., Tishkova, V. N., Ivanov, S. K.
TITLE: Ionites and their use in catalytic synthesis
PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1961, 321, abstract
20L45 ([Tr.] Groznensk. neft. in-t, sb. 23, 1960, 137-145)

TEXT: The alkylation reaction of phenol with a fraction of polymer gasoline in the presence of cationite KY-2 (KU-2) was investigated under static conditions and according to a continuous system. The dependence of the phenol conversion rate on the temperature and reaction time was determined. [Abstracter's note: Complete translation.]

Card 1/1

S/081/61/000/020/071/089
B126/B147

AUTHORS: Isagulyants, V. I., Maksimova, I. S.

TITLE: Synthesis of α -substituted vinyl esters, ketones, and other chemical compounds of β -chloro esters obtained from cracked pentane amylene fraction

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1961, 318, abstract 20L16 ([Tr.] Grosnensk. neft. in-t, Sb. 23, 1960, 151-162)

TEXT: A new method for the synthesis of vinyl esters from β -chloro esters obtained from cracked fractions was developed, and the effects of temperature, alkali concentration, and alcohol nature on the process were studied. The substituted vinyl esters obtained are used as monomers and also for the synthesis of carbonyl compounds. [Abstracter's note: Complete translation.]

Card 1/1

ISAGULYANTS, V.I.; FAVORSKAYA, N.A.

Synthesis of new antioxidant additives. Trudy MINKHIGP no.28;
56-67 '60. (MIRA 14:4)

(Antioxidants)

ISAGULYANTS, V.I.

Ionites and their use in catalytic synthesis. Trudy MINKHGP
no.28:68-79 '60. (MIRA 14:4)
(Ion exchange) (Catalysis)
(Chemistry, Organic—Synthesis)

ISAGULYANTS, V.I.; BRIL', N.Ye.

Chemical refining of natural gasoline from shale. Trudy MINKHIGP
no.28:157-160 '60. (MIRA 14.4)
(Gasoline) (Oil shales)

ISAGULYANTS, V.I.; BALASHOVA, V.V.

Low-temperature chlorination of tertiary amylanes of petroleum origin with benzenesulfonic acid dichloroamide. Izv. vys. ucheb. zav.; neft' i gas 3 no.12:85-89 '60. (MIRA 14:10)

1. - Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika I.M. Gubkina, Gruzinskiy neftyanoy institut.

(Butene)
(Benzenesulfonic acid)
(Chlorination)

82959

S/065/60/000/004/003/017
E071/E435

15.6400

AUTHORS: Isagulyants, V.I., Tishkova, V.N. and Grushevenko, I.A.

TITLE: Production of Synthetic Lubricating Oils of the Type of Polyglycol Esters 7 //

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1960, ⁵No.4, pp.8-13

TEXT: A systematic investigation of condensation reaction of propylene oxide with phenols, substituted phenols (butyl and actylphenols) and alcohols (propyl, isopropyl, isoamyl, heptyl, octyl and 2-ethylhexanol) was carried out in order to produce synthetic lubricating oils (polyglycol esters) and to test their low temperature properties. Altogether 39 specimens of synthetic oils were prepared. The physico-chemical properties of polyglycol esters based on propylene and phenols are given in Table 1, of those based on propylene and alcohols produced at atmospheric pressure are given in Table 2 and of those produced in an autoclave are given in Table 3. The experimental procedure is described in some detail. In respect of polyglycol esters based on phenols, the following relationships were found:

1. With increasing number of propylene groups in the molecule the

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82959

S/065/60/000/004/003/017
E071/E435

Production of Synthetic Lubricating Oils of the Type of Polyglycol Esters

viscosity of polyglycol ester increases and its solidification temperature decreases.

2. With increasing molecular weight of the starting substituted phenol, the viscosity of the oil produced increases but its temperature-viscosity properties somewhat deteriorate.

3. Condensation of propylene oxide with phenol takes place easier than with a substituted phenol.

In respect of esters based on alcohols the following relationships were found:

1. The viscosity of a polyglycol ester increases with increasing amount of propylene oxide added to the alcohol.

2. With increasing viscosity of polyglycol esters, their solidification temperature also increases as well as the ratio of $\sqrt{50}/\sqrt{100}$.

3. With increasing number of carbon atoms in the molecule of alcohol, the absolute value of the viscosity and solidification temperature of the polyglycol ester increases. The value of the ratio of $\sqrt{50}/\sqrt{100}$ remains practically unchanged.

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82959

S/065/60/000/004/003/017
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Production of Synthetic Lubricating Oils of the Type of Polyglycol Esters

4. Polyglycolic esters produced from normal alcohols possess a higher solidification temperature than those produced from corresponding iso alcohols. Polyglycolic ester from experiment 13 was submitted to oxidation by air according to the VTI method, whereupon its resistance to oxidation was established. It was found that polyglycol esters based on propylene oxide and alcohols possess better low temperature properties than those based on phenols. By varying the ratio of starting components (propylene oxide and alcohol) polyglycol esters of various viscosity and good low temperature properties can be obtained. It was also shown that alcohols produced at present on an industrial scale (isopropyl) can be utilized for the purpose. There are 3 figures, 3 tables and 9 references: 3 Soviet and 6 English.

ASSOCIATION: MINKh i GP im. Gubkina
(MINKh and GP imeni Gubkin)

Card 3/3

ISAGULYANTS, V.I., akad.; AZIZYAN, T.A.

Oxidation of chlorides of the vinyl type. Part 2: Synthesis and oxidation of certain γ -chlorocrotyl ethers of phenols substituted in the nucleus. Dokl.AN Arm.SSR 30 no.5:279-286 '60. (MIRA 13:8)

1. Institut organicheskoy khimii Akademii nauk Armyanskoy SSR.
2. Akademiya nauk Armyanskoy SSR (for Isagulyants).
(Phenols)

S/080/60/033/04/34/045

AUTHORS: Isagulyants, V.I., Slavskaya, N.A.

TITLE: Investigation of the Reaction of Phenol¹ Alkylation by Amylenes in the Presence of Cationites and the Dealkylation of Tertiary Amylphenol as a Method of Separating Tertiary Amylenes From Pentane-Amylene Fractions

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 4, pp 953 - 956

TEXT: Tertiary amylphenol is one of the most important semi-finished products obtained on the base of petroleum raw material. It is an initial product for the manufacture of oil-soluble phenol-formaldehyde resins, ⁶oxethylated compounds which are surface-active substances, etc. As catalyst two Soviet cationites were used: KU-1¹ which is a sulfonated condensation product of phenol with formaldehyde, and KU-2 which is sulfonated copolymerization product of styrene with divinylbenzene. The study of the reaction of alkylation of phenol with amylenes in the presence of these cationites showed that the reaction proceeds selectively with the KU-2 cationite at a temperature of 135°C, producing para-tertiary-amylphenol with a yield of 90 - 96% in the case of complete absence of polyalkylated phenols. The new method of producing tertiary amylphenol is distinguished by a simple technology and avoids the process of washing

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S/080/60/033/04/34/045

Investigation of the Reaction of Phenol Alkylation by Amylenes in the Presence of
Cationites and the Dealkylation of Tertiary Amylphenol as a Method of Separating
Tertiary Amylenes From Pentane-Amylene Fractions

the alkylate with water and the formation of harmful phenol waste waters. As a result
of studying the reaction of dealkylation of tertiary amylphenol in the presence of
chlorobenzenesulfoacid, the transformation of amylphenols in sufficient quantities with
the formation of pure tertiary amylene proved to be possible. The new method of the
synthesis of amylphenol with subsequent dealkylation can be used as a variant of
separating amylenes from the pentane-amylene fraction for the subsequent conversion of
amylenes into isoprene. ✓

There are: 3 tables and 1 Soviet reference.

SUBMITTED: August 13, 1959

Card 2/2

ISAGULYANTS, V.I.; BALASHOVA, V.V.

Low-temperature chlorination of tertiary ethylenic hydrocarbons
of petroleum origin having the composition C_4 and C_8 . Zhur. prikl.
khim. 33 no.12:2762-2768 D '60. (MIRA 14:1)

1. Moskovskiy institut neftekhimicheskoy i gasovoy promyshlennosti
imeni I.M. Gubkina i Groznenskiy neftyanoy institut.

(Chlorination)

(Diisobutylene)

(Propene)

36580

S/081/62/000/006/086/117

B167/B101

11.9700

AUTHORS: Tishkova, V. N., Isagulyants, V. I., Chang Hsiu-cheng,
Utsmiyeva, N. M.

TITLE: Synthesis of diether dithiophosphoric acids and their
derivatives on the basis of substituted phenols. Use of
these materials as additives to petroleum products

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1962, 541, abstract
6M259 (Sb. "Prisadki k maslam i toplivam". M.,
Gostoptekhizdat, 1961, 34-48)

TEXT: Starting with diether dithiophosphoric acids (I), prepared from
 P_2S_5 and alkyl phenols in toluene solution, 35 compounds have been
synthesized and studied as possible anti-oxidant and wetting additives to
motor oils. Their anti-oxidant action was studied in a solution of
mineral oil MF-16 (MF-16) by the thermal oxidation stability
ГОСТ 4953-49 (GOST 4953-49) and vaporizability ГОСТ 5737-53 (GOST 5737-53)
methods; their wetting power was measured on a ПЗВ (PZV) apparatus. The
Ca salts of I, the I of which was prepared by the reaction of P_2S_5 with
Card 1/3

Synthesis of diether dithiophosphoric ... S/081/62/000/006/086/117
B167/B101

mono-alkyl phenol disulfides or with mono-alkyl phenols (alkyls: tert-C₄H₉, tert-C₅H₁₁, and tert-C₈H₁₇), had both anti-oxidant and wetting properties, but the basic Ca salts had a stronger wetting action and a weaker anti-oxidant action than the neutral Ca salts, which were powerful anti-oxidant but indifferent wetting agents. The most attractive additive is the basic Ca salt of I prepared from the disulfide of tert-octyl phenol (the multifunctional additive HT-22K (IP-22K)) and also the neutral Ca salt of the same I (the anti-oxidant additive AH-22K (AN-22K)). The Ba salts differed little in activity from the Ca salts, but the Zn salts had a high anti-oxidant and a poor wetting action. The strongest anti-oxidant effect was observed with the Zn salt of I prepared from tert-octyl phenol, bis-tert-octyl phenol with a methylene bridge, or bis-tert-octyl phenol with a disulfide bridge. By neutralizing I with organic bases (α -methyl stearylamine, octadecylamine, guanidine, and the diamide of sebacic acid) ash-free additives were prepared. The neutralization was carried out in a benzene medium at 40°C (amines) or 160°C (diamide). These ashless additives had no wetting action, but were good anti-oxidants, especially the guanidine salt of I prepared from octyl phenol disulfide. The esters of I, prepared from 1 mole of I and 1 mole of propylene oxide, also had

Card 2/3

X

36541
S/081/62/000/006/074/117
B149/B108

11.0172,

AUTHORS: Isagulyants, V. I., Favorskaya, N. A.

TITLE: Synthesis of new antioxidant additives of the screened phenol type

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1962, 535, abstract 6M213 (Sb. "Prisadki k maslam i toplivam", M., Gostoptekhnizdat, 1961, 94 - 102)

TEXT: The additives 2,2'-methylene-bis-(6-tert-butyl-4-methylphenol) (I), disulfide-4,6-ditert-butyl-3-methylphenol (II), and 2,2'-methylene-bis-(4,6-ditert-butyl-3-methylphenol) (III) were synthesized and studied. The methods worked out for the preparation of (II) and (III) permit the use of the by-product in the preparation of ionol (4,6-di-tert-butyl-3-methylphenol). As antioxidant additive, (I) added in the amount of 0.05% to ethylated benzine is more effective than ionol; (II) added in the amount of 0.005% to synthol (a motor fuel fraction 150 - 220°C, containing 8% of unsaturated hydrocarbons) has the same effectiveness as ionol. The effectiveness of (II) in the test with transformer oil is next to that of
Card 1/2

X

S/081/62/000/008/044/057
B156/B101

11.9700
AUTHORS:

Isagulyants, V. I., Tishkova, V. N., Yemel'yanova, L. M.,
Grushevenko, I. A.

TITLE:

The synthesis and properties of polyglycol ethers and their
use as components of synthetic oils and additives

PERIODICAL:

Referativnyy zhurnal. Khimiya, no. 8, 1962, 484, abstract
8M214 (Sb. "Prisadki k maslam i toplivam". M.,
Gostoptekhzdat, 1961, 115-121)

TEXT: A number of polyglycol ethers (I) were synthesized by the condensa-
tion of phenols and alcohols containing different molecular amounts of
propylene oxide (II) in the presence of NaOH (1% of the raw material) as
catalyst. The I were produced by the condensation of phenol with (in
moles of II per mole of phenol or alcohol) 1,2,3,4,5 and 15 of II, tert-
butyl phenol with 15 of II, tert-octyl phenol with 10 II, n-propanol with
8 II, iso-propanol with 4.8 and 16 II, iso-amyl alcohol with 1,2,2.86
and 8 II, heptanol with 2 and 4 II, octanol with 4 and 6 II, and
2-ethylhexanol with 8 II. The boiling points n^{20}_D , d^{20}_{20} , gel points and

Card 1/2

The synthesis and properties ...

S/081/62/000/008/044/057
B156/B101

viscosities at different temperatures are given for the I produced. Increasing the number of II groups in the I increases the viscosity of the I. The I produced on an alcohol base (gel points between -52 and -60°C) had better low-temperature properties than the phenol-base I (gel points between -28 and -43°C). The authors consider that it will be effective to add certain of the I to the compositions of additives for lubricating oils to improve their dispersing and cleansing properties. [Abstracter's note: Complete translation.]

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L 20328-63

EPF(c)/ENT(m)/BDS AFFTC/ASD/APGC Pr-4 BW/RM/WH/

MAY/OJ

ACCESSION NR: AT3001980

S/2564/61/000/000/0133/0139

AUTHORS: Isagulyants, V.I.; Ivanov, G.A.

TITLE: Additive-production technology. Alkylation of phenol by di-isobutylene in the presence of domestic cation-exchange resin as a catalyzer.

SOURCE: Prisadki k maslam i toplivam; trudy nauchno-tekhnicheskogo soveshchaniya. Moscow, Gostoptekhizdat, 1961, 133-139.

TOPIC TAGS: catalysis, catalyzer, cation, exchange, cationite, resin, alkyl, phenol, alkylation, di-isobutylene, phenolic, waste, water.

ABSTRACT: The paper surveys briefly existing technical literature on the alkylation of phenols by olefines and the use of such catalysts as H_2SO_4 , alumina, phosphoric acid, chlorous Al, benzosulfoacid, and others. Reference is made then to works by the author Isagulyants and others in 1952 on the possibility of alkylation of phenol by olefines with the use of the cationite catalyst KU-2, which is a sulfonated product of copolymerization of styrene and divinylbenzol. The present paper describes an investigation for the development of an optimal regime for the preparation of the cationite for the stated purpose. To develop a dependable, easy, and rapid method for the preparation of the cationite KU-2, the effect of various factors

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L 20328-63

ACCESSION NR: AT3001980

on the catalytic activity of KU-2 and the rate of its preparation process in the transformation of the cationite into the H form was studied, namely: (a) The concentration of the acids (H_2SO_4 and HCl); (b) the temperature (T) of the acids; (c) the rate of input of the acids; (d) the height of the cationite layer during its preparation; (e) the T of the washing water; (f) the rate of input of the washing water; etc. The investigation established the following: (1) The cationite can be used in the alkylation reaction both in the waterless and in the moist form; (2) 8-10 operations of alkylphenol synthesis can be performed with the same catalyst; (3) the cationite is readily regenerated, whereupon it can be used for 10-12 additional synthesis operations; up to 150 g of dry alkylphenol can be obtained per g of air-dried cationite; (4) the optimal amount of catalyst in the periodic alkylation process is 4 to 6.5 weight-% in the initial mixture of reagents. The paper describes the continuous method of alkylation of phenol by di-isobutylene in the presence of the cationite KU-2. The change in the quality of the alkylphenol, depending on its method of preparation and the catalyst employed, the quality indices of the alkylphenol obtained by various methods, and the dependence of the output of dry alkylphenol on the composition of the initial mixture are tabulated. The schematic arrangement of the experimental setup for the alkylation of phenol by the continuous method is graphically illustrated and described. The new scheme for the preparation of alkylphenol ensures a total transformation of phenol and obviates the elimination of any

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ACCESSION NR: AT3001980

3
poisonous phenolic waste waters or the need for acid-proof equipment in the process. The alkylphenol obtained in the new method is a monoalkylphenol (mpem-octyl-phenol) which is completely suitable for the production of alkylphenol additives and detergent substances of the type OP-7 and OP-10. The wetting properties of the detergents based on alkylphenol obtained by the new method exceed those of detergents obtained in the industry with the use of the BSK catalyst. This is explained by the absence, in the alkylphenol, of polyalkylated compounds, inasmuch as the catalyst KU-2 employed in the new method acts selectively and eliminates the possible formation of polyalkylated compounds. Orig. art. has 2 figures and 4 tables.

ASSOCIATION: MINKh 1 GP.

SUBMITTED: 00	DATE ACQ: 23Jan63	ENCL: 00
SUB CODE: FL, CH, PH.	NO REF SOV: 006	OTHER: 000

Card 3/3

ISAGULYANTS, V.I.; IVANOV, G.A., inzh.

Alkylation of phenol with diisobutyl in the presence of cation-exchanging tar as a catalyst. Nauch.zap.Ukrniiproekta no.4:113-120 '61. (MIRA 15:1)

1. Deystvitel'nyy chlen AN Armyanskoy SSR (for Isagulyants). (Phenols) (Alkylation)

ISAGULYANTS, V.I., doktor khim.nauk; GEL'ZINA, Ye. L., inzh.

Synthesis of a detergent from polyglycolic ether of tert-octylphenol.
Masl.-zhir. prom. 27 no.6:25-27 Je '61. (MIRA 14:6)

1. Moskovskiy ordena Trudovogo Krasnogo Znameni institut neftekhimicheskoy
i gazovoy promyshlennosti imeni I. M. Gubkina.
(Cleaning compounds)
(Phenol)

5.3606

S/080/61/034/001/016/020
A057/A129

AUTHORS: Isagulyants, V.I., Maksimova, I.S.

TITLE: Reaction of Dehydrochlorination of β -chloro-ethers

PERIODICAL: Zhurnal Prikladnoy Khimii, 1961, Vol. 34, No. 1, pp. 208-211

TEXT: In the present work the influence of the nature of the alkoxy group in β -chloro-ethers on dehydrochlorination was investigated. It was observed that an increase in the number of C atoms in the carbon radical promotes dehydrochlorination. The present experiments were carried out with: 2-chloro-3-propoxy-pentane and 2-chloro-3-butoxy-pentane. Two new substituted vinyl ethers were obtained: 3-propoxy-pentene-2 and 3-butoxy-pentene-2. In previous papers the present authors described synthesis of substituted vinyl ethers by dehydrochlorination of β -chloro ethers [Ref.1: DAN Arm. SSR, 22,5, 203 (1956), and Ref.2: ZhPKh, 30,775 (1957)]. The latter were obtained from cracking olefines. Vinyl ethers are chemically highly active and are used in the preparation of polymers. Developing the research program the present authors investigated [Ref.3: Tr.mezhvuzovskoy nauchno-tekhn.konf. po probleme-Card 1/6

22531

S/080/61/034/001/016/020

A057/A129

Reaction of Dehydrochlorination of β -chloro-ethers

mam ispol'zovaniya nefiti i gaza dlya khim.sinteza i novykh vidov motornykh topliv (Proceedings of the inter-university scientific technical conference on problems of the use of petroleum and gas for chemical synthesis and new types of motor fuels), 7,28,157-162 (1960)] the effect of alkali concentration and nature of alcohol (used as solvent) on dehydrochlorination of β -chloro-ethers. Experiments with methyl chloro-ether demonstrated that the yield of vinyl ethers depends on alkali concentration. Optimum ratio is methyl chloro-ether : alcohol = 1 : 3. Solutions of KOH in methyl-, ethyl-, butyl-, and amyl-alcohol were investigated and it was observed that the main reaction product with KOH solutions in methanol or ethanol was α -propyl-methyl-vinyl ether. While using butanol-, or amyl-alcohol-solutions of KOH the yield of vinyl ether decreased and chlorine in the β -chloro-ether was substituted partly by the alkoxy group of the used alcohol. The β -chloro-ethers used in the present investigations were obtained from a cracked pentane-amylene fraction by a previously described method [Ref.4: A.K. Seleznev, and I.S. Maksimova, ZhPKh, 25,78 (1952); Ref.5: V.I. Izagulyants, I.S. Maksimova, DAN Arm. SSR, 20,120 (1955)]. The constants of the ethers are given in Table 1. The experiments were carried out in an autoclave by heating the mixture (β -chloro-ether : alcohol = 1 : 3) at 10-15 atm during 1-2 hrs (see Tab.2,3). [Abstracter's note: no data on temperature are given, but previous papers are Card 2/6

Reaction of Dehydrochlorination of β -chloro-ethersS/OBO/61/034/001/016/020
A057/A129

referred to]. Dehydrochlorination conditions for the methyl ether have been more rigorous, viz., 8 hrs heating at 10-20 atm (Ref.2). The constants of 3-propoxy-pentene-2 obtained are: boiling point 125-126°C, n_D^{20} 1.4080, d_4^{20} 0.7841, MR = 40.313 (calculated), 40.30 (obtained) [Abstracters note: the latter is a misprint and should read 4.30], bromine number 125 (calculated), 122.4 (obtained), empirical formula $C_8H_{16}O$; constants for 3-butoxy-pentene-2 are: boiling point 146-147°C, n_D^{20} 1.4145, d_4^{20} 0.7926, MR 44.93 (calculated), 44.81 (obtained), bromine number 112.6 (calculated), 111.2 (obtained), empirical formula $C_9H_{18}O$. There are 5 tables and 5 Soviet references.

SUBMITTED: June 9, 1960

Card 3/6

25396

S/080/61/034/002/018/025

A057/A129

15 8121

AUTHORS: Isagulyants, V.I., Balashova, V.V.

TITLE: Substituted epichlorohydrines from petroleum raw material

PERIODICAL: Zhurnal Prikladnoy Khimii, v 34, no 2, 1961, 424-430

TEXT: Four new dichlorohydrines were synthesized from chloroallyl compounds by hypochlorination with monochloro-carbamide solution corresponding to a method described by A. Detoeuf (Ref 2: Bull. Soc. Chim. France, 31, 102, 171 (1922)) and M.V. Likhoshesterov, S.V. Alekseyev (Ref 3: ZhOKh, 3, 8, 927 (1933)). The chloro-allyl compounds were prepared from a pentane-amylene fraction of a low-temperature cracking product (Ref 1: "Trudy vsesoyuznogo soveshchaniya po neftekhimicheskemu sintezu i proizvodstvu novykh vidov motornykh topliv" ("Proceedings of the All-Union Congress on Syntheses in Petroleum Chemistry and Production of New Types of Motor Fuels" , Groznyy (1958)) by a low-temperature chlorination with chloro-

Card 1/6

25396

S/086/61/034/002/018/025
A057/A129

Substituted epichlorohydrines ...

amide. By dehydrochlorination of the obtained dichlorohydrines 3 new substituted epichlorohydrines were prepared. The present work demonstrates the possibility of preparation of epichlorohydrines from olefines obtained by petroleum cracking. Epichlorohydrine is used for the production of epoxide resins, which are important for the manufacture of various plastics and similar materials. The characteristics of the obtained dichlorohydrines and substituted epichlorohydrines are presented in Tab. 1, 2. Hypochlorination of the chloroallyl compounds was carried out with acidified (H_2SO_4) aqueous solution of monochloro-carbamide using $CuCl_2$ as catalyst and shaking the mixture by keeping the temperature at a maximum of 15-17°C. By shaking with water the dichlorohydrines were separated from impurities, which remained in the oil phase. After saturation with NaCl the dichlorohydrines were extracted with ether. Hypochlorination of 3-chloro-2-methylpropene-1 and 3-chloro-2-ethylpropene-2 yields isomers (I and II in Tab. 1) with the structure of a tertiary alcohol, while in hypochlorination of 3-chloro-2-methylbutene-1 and 1-chloro-2-methylbutene-2 besides tertiary dichlorohydrine (III) primary (IV) and secondary (V) dichlorohydrines are formed, which are apparently abnormal products of

Card 2/6

ISAGULYANTS, V.I.; FAVORSKAYA, N.A.; TISHKOVA, V.N.

Synthesis of 2, 6-di-tert-butyl-4-methylphenol. Zhur.prikl.khim.
34 no.3:693-694 Mr '61. (MIRA 14:5)
(Cresol)

ISAGULYANTS, V.I.; PANIDI, Ye.V.

Alkylation of phenolic ethers with olefins in the presence of cation
exchange resins as catalysts. Zhur.prikl.khim. 34 no.7:1578-1582
Jl '61. (MIRA 14:7)

(Ethers) (Olefins)

ISAGULYANTS, V.I.; PANIDI, Ye.V.

Alkylation of phenol with isobutyl alcohol in the presence
of a cation exchange resin (new method of preparing tertiary
butylphenol). Zhur.prikl.khim. 34 no.8:1849-1852 Ag '61.

(MIRA 14:8)

(Phenol) (Isobutyl alcohol)

BELOV, P.S.; LYUY CHAO-TSI [Lü Ch'ao-ch'i]; ISAGULYANTS, V.I.

Alkylation of phenol with isobutyl alcohol in the presence of
the cation exchange KU-2. Khim.prom. no.7:480-483 J1 '62.
(MIRA 15:9)
(Phenol) (Isobutyl alcohol) (Ion exchange resins)

ISAGULYANTS, V.I.; POREDDA, Z.

Use of anion exchange resins as catalysts in the cyanoethylation reaction. Zhur.ob.khim. 32 no.7:2382-2383 J1 '62. (MIRA 15:7)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni I.M.Gubkina.

(Anion exchange resins) (Cyanoethylation)

GRIGORYAN, Kh.A.; PANFILOV, A.A.; ISAGULYANTS, V.I., akademik

Experience in the direct hydration of vinylacetylene in the presence of ion exchange resins. Dokl. AN Arm. SSR 35 no.1:33-36 '62. (MIRA 15:8)

1. ArmNII Khimproyekt. 2. AN Armyanskoy SSR (for Isagulyants).
2. Akademiya nauk Armyanskoy SSR (for Isagulyants).
(Butenynе) (Hydration) (Ion exchange resins)

ISAGULYANTS, V.I.; BALASHOVA, V.V.

Epoxide resins on the basis of substituted epichlorohydrins.
Zhur.prikl.khim. 35 no.11:2477-2482 N '62.

(MIRA 15:12)

1. Moskovskiy institut neftekhimicheskoy i gasovoy promyshlennosti
imeni I.M.Gubkina i Gromenskiy neftyanoy institut.
(Epoksy resins) (Epichlorohydrin)

ISAGULYANTS, V.I.; TISHKOVA, V.N.; CHZHAN SYU-CHZHEN [Chang Hsiu-cheng]

Synthesis of new multifunctional additives on a base of text-
amylphenol. Trudy MINKHIGP no.37:116-125 '62. (MIRA 17:3)

ISAGULYANTS, V.I.; SHIROKI, K.

Synthesis of trimethylolnitromethane using an anion exchanger as
a catalyst. Trudy MINKHIGP no.37:130-133 '62. (MIRA 17:3)

L 15691-63 EPF(c)/ENT(m)/BDS AFFTC/AFGC Pr-L EW/EM/DJ
 S/0081/63/000/008/0610/0610
 ACCESSION NR: AR3003600
 SOURCE: RZh. Khimiya, Abs. 8P251
 AUTHOR: Kirichenko, L. N.; Isagulyants, V. I.
 TITLE: Alkylation of pyrocatechol by isobutylene in the presence of catalyst
 KU-2
 CITED SOURCE: Tr. Mosk. in-t neftekhim. i gas. prom-sti, vypr. 37. 1962, 133-136
 TOPIC TAGS: phenol alkylation, t-butylpyrocatechol, catalytic alkylation,
 antioxidant
 TRANSLATION OF ABSTRACT: A process was studied for obtaining antioxidation
 additives by alkylation of diatomic phenols and their derivatives by various
 alkylating agents in the presence of ion-exchange resins (KU-1 and KU-2), the
 use of which eliminates the formation of harmful waste water and does not require
 the use of anticorrosion apparatus. Investigations were carried out with a
 mixture of pyrocatechol and toluene with the use of cation-exchanger KU-2 as
 catalyst; the alkylating agent was isobutylene. The mixture was heated to a

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temperature of 90°, and with continuous stirring isobutylene was admitted. Alkylation was accomplished in 1.5 hr; during alkylation the temperature dropped to 60°. After the evaporation of the toluene and distillation under vacuum at residual pressure of 16-19 mm, two fractions were obtained -- unreacted pyrocatechol (distillation up to 153°) and 88.08% (of theoretical) t-butylpyrocatechol produced is a highly effective inhibitor and is used as an antioxidant additive in the oxidation of isopropylbenzene by air, etc. Besides this, it obviously is an effective antioxidant additive for power oils. G. Agap'eva

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